(No Model.)

E. L. McCLAIN.

COFFEE MILL.

No. 419,700. Patented Jan. 21, 1890.

FIG. 1.

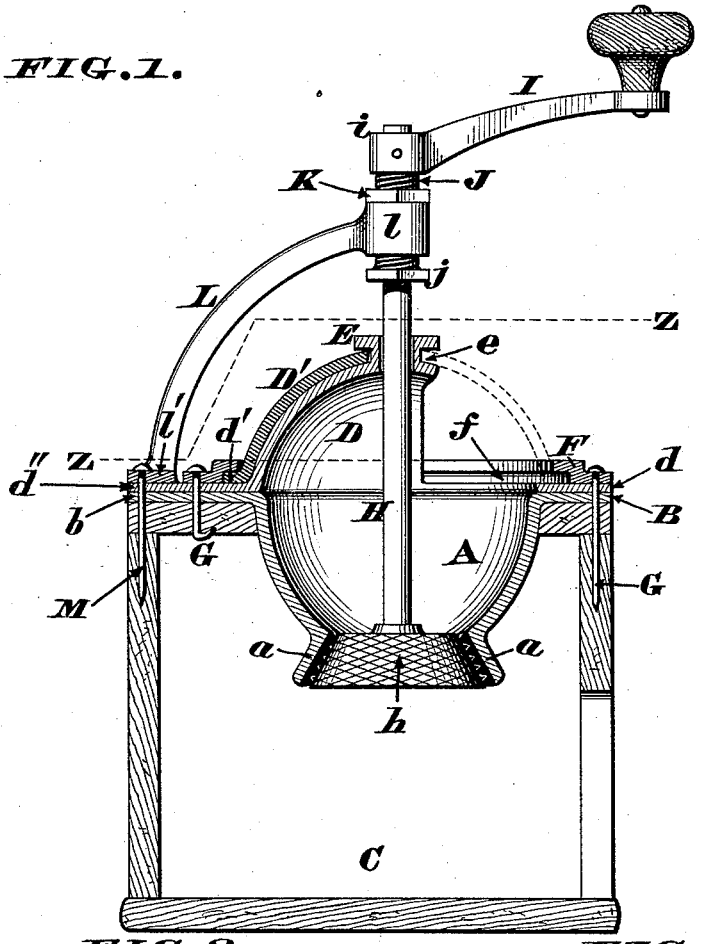


FIG. 2.

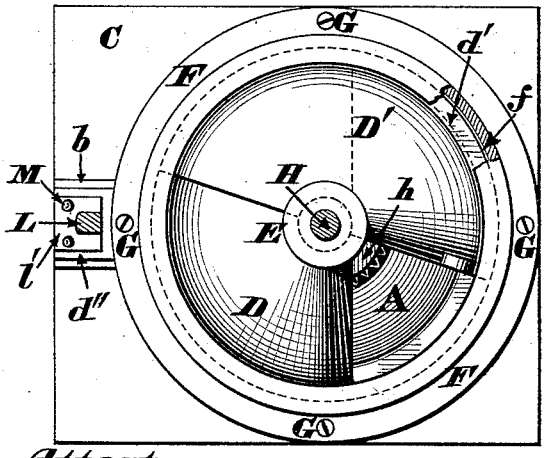
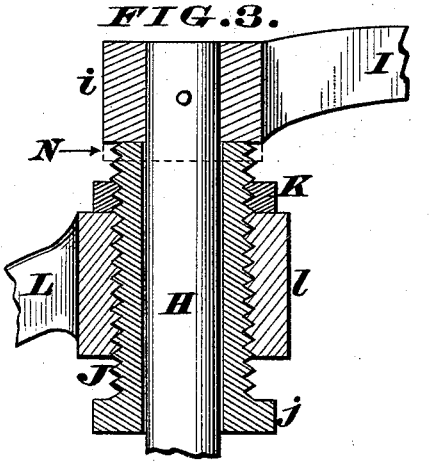


FIG. 3.



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UNITED STATES PATENT OFFICE.

EDWARD L. McCLAIN, OF GREENFIELD, OHIO.

COFFEE-MILL.

SPECIFICATION forming part of Letters Patent No. 419,700, dated January 21, 1890.

Application filed April 22, 1889. Serial No. 308,184. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. McCLAIN, a citizen of the United States, residing at Greenfield, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Hand Coffee-Mills; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form a part of this specification.

My invention comprises a specific construction of hand coffee-mill, the object of the improvement being to furnish a mill that can be cheaply manufactured, readily fitted together, and speedily adjusted to grind either fine or coarse, as occasion requires, the details of said improvement being hereinafter fully described, and then pointed out in the claim.

In the annexed drawings, Figure 1 is a vertical section of a coffee-mill embodying my various improvements. Fig. 2 is a horizontal section of the same, taken at the line *z z* of the preceding illustration. Fig. 3 is an enlarged axial section of the adjusting devices for the grinding-shaft.

A is the hopper, having at bottom any approved form of grinding surface or concave *a* and at top an annular flange B, which rests upon the mill-box C, said flange being provided with a lateral lug *b*, for a purpose that will presently appear.

D is a dome-shaped or crowning cover having at its base an annular flange *d*, of practically the same size as the flange B, and at top said cover takes the shape of a shaft-bearing E, having a circumferential groove *e*. This cover extends about half-way across the mouth of the hopper, and is supplemented by a swing-cover D′, having at bottom an outwardly-projecting annular rim *d′*, while the top of said swing-cover fits snugly within the groove *e*.

F is a ring having an annular groove *f* to admit the rim *d′* of cover D′, said ring being held in place by the same nails, screws, or other fastenings G that secure the hopper A and cover D upon the mill-box C. Bearing E is traversed by a vertical shaft H, having a suitable grinder *h* at its lower end and at top a crank or handle I, whose boss *i* is attached to said shaft and rests upon the upper end of an externally-threaded tube J, having a square head or other turning device *j*.

K is a jam-nut that retains said tube to any specific adjustment within a bearing *l* at the upper end of a brace L, the lower end of the latter being provided with a base-plate *l′*, which rests upon the lateral lug *d″* of the fixed cover D.

M are screws or nails that pass through the base-plate *l′* and lateral lugs *b d″*, and thus secure the handle L, hopper A, and fixed cover D to the mill-box C.

When the hopper A is to be filled with coffee, the swing-cover D′ is turned around to the position seen in Fig. 1, thereby affording the most convenient access to said hopper, and after it is charged said cover is turned back to the position indicated by dotted lines. Consequently the hopper is now completely closed, the swing-cover D′ being held in place by the operator's hand, while the grinding operation is carried on in the usual manner. If the coffee is to be ground very fine, the tube J is screwed up a suitable distance and then locked in place by the jam-nut K, which elevation of said tube causes a corresponding lifting of the shaft H, and thus brings the grinder *h* quite near the concave *a;* but if the mill is to grind more or less coarsely the tube J is screwed down, thereby causing a corresponding descent of the grinder *h* and affording a greater clearance between it and the concave *a*. It will thus be seen that by properly turning the tube J and then tightening the clamp-nut K the feed of the mill can be regulated with the utmost nicety. Finally, if desired, a hardened ring or washer may be interposed between the tube J and crank-boss *i*, as indicated by the dotted line N in Fig. 3.

I claim as my invention—

The within-described specific construction of hand coffee-mill, which construction includes the hopper A, having a grinding-surface *a*, annular flange B, and lateral lug *b*, the mill-box C, upon which said hopper rests, the dome-shaped cover D, having an annular flange *d*, lateral lug *d″*, shaft-bearing E, and circumferential groove *e*, the swing-cover D′, having at bottom an annular rim *d′*, the ring

F, having an annular groove *f*, the fastenings G, that secure said hopper, cover, and ring to said box C, the vertical shaft H, having a grinder *h* and crank I, the externally-threaded tube J, having a turning device *j*, the jam-nut K, engaged with said tube, the brace L, having a base-plate *l'* and an internally-threaded bearing *l*, and the fasteners M, that pass through the plate *l'* and lugs *b d''* and enter the side of said mill-box, all combined to operate as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD L. McCLAIN.

Witnesses:
JAMES H. LAYMAN,
SAML. S. CARPENTER.